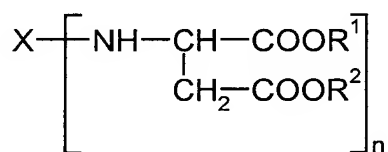


WHAT IS CLAIMED IS:

1. A two-component coating system comprising

5 (i) a prepolymer containing free isocyanate groups, having an NCO content of from 0.4 to 12% by weight, obtainable by reaction of a di- or polyisocyanate with one or more polyoxyalkylene polyols having an average hydroxy functionality of from 1.96 to 6 and an equivalent weight of at least 250 g/mol, wherein the polyoxy-  
10 alkylene polyols are obtained by alkoxyating hydroxy-functional starter molecules in the presence of double metal cyanide catalysts, and

(ii) an amino-functional polyaspartic ester of the general formula



15

in which

20 X represents an n-valent organic radical obtained by removing the amino groups from a polyamine selected from the group consisting of ethylenediamine, 1,2-diaminopropane, 1,4-diaminobutane, 1,6-diaminohexane, 2,5-diamino-2,5-dimethylhexane, 2,2,4- and/or 2,4,4,-trimethyl-1,6-diaminohexane, 1,11-diaminoundecane, 1,12-diamino-dodecane, 1-amino-3,3,5-trimethyl-5-aminomethylcyclo-  
25 hexane, 2,4- and/or 2,6-hexahydrotolylenediamine, 2,4'-and/or 4,4'-diaminodicyclohexylmethane, 3,3'-dimethyl-4,4'-diaminodicyclohexylmethane, 2,4,4'-triamino-5-methyldicyclohexylmethane, and polyether polyamines

having aliphatically attached primary amino groups with a molecular weight of from 148 to 6000,

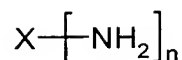
5  $R_1$  and  $R_2$  represent identical or different organic radicals which are inert towards isocyanate groups under the reaction conditions, with the proviso that  $R^1$  and  $R^2$  are ethyl when X represents the radical obtained by removing the amino groups from 2,4,4'-triamino-5-methyldicyclohexylmethane, and

10 n represents an integer of at least 2.

2. The coating system of Claim 1, wherein the polyisocyanate of (i) is one or more selected from the group consisting of toluene diisocyanate (TDI),  
 15 methylenediphenyl diisocyanate (MDI), triisocyanatononane (TIN), naphthyl diisocyanate (NDI), 4,4'-diisocyanatodicyclohexylmethane, 3-isocyanatomethyl-3,3,5-trimethylcyclohexyl isocyanate (isophorone diisocyanate = IPDI), tetramethylene diisocyanate, hexamethylene diisocyanate (HDI), 2-methylpentamethylene diisocyanate, 2,2,4-trimethylhexamethylene diisocyanate  
 20 (THDI), dodecamethylene diisocyanate, 1,4-diisocyanatocyclohexane, 4,4'-diisocyanato-3,3'-dimethyldicyclohexylmethane, 4,4'-diisocyanato-2,2-dicyclohexylpropane, 3-isocyanatomethyl-1-methyl-1-isocyanatocyclohexane (MCI), 1,3-diisooctylcyanato-4-methylcyclohexane, 1,3-diisocyanato-2-methylcyclohexane and  $\alpha,\alpha,\alpha',\alpha'$ -tetramethyl-m-xylylene diisocyanate or  
 25  $\alpha,\alpha,\alpha',\alpha'$ -tetramethyl-p-xylylene diisocyanate (TMXDI) and mixtures thereof.

3. The coating system of Claim 1, wherein the polyoxyalkylene polyols in (i) have a double bond content of less than 50 mmol/kg.

30 4. The coating system of Claim 1, wherein the amino-functional polyaspartic esters (ii) are prepared by reacting a primary polyamine of the formula



with a maleic ester or a fumaric ester of the formula

5



wherein  $\text{R}_1$ ,  $\text{R}_2$ , X and n are as defined in Claim 1.

5. A coating composition obtainable by reacting components (i) and (ii) of  
10 the two-component coating system according to Claim 1 in a proportion  
corresponding to an NCO/NH<sub>2</sub> equivalents ratio of from 0.5:1 to 1.5:1.

6. A coating composition according to Claim 5, comprising one or more  
additives selected from the group consisting of pigments, fillers, plasticizers such  
15 as coal tar, and levelling assistants.

7. A process for producing elastic coatings comprising, mixing the  
components of the two-component coating system according to Claim 1 in a  
proportion corresponding to an NCO/NH<sub>2</sub> equivalents ratio of from 0.5:1 to 1.5:1;  
20 and applying the mixture to a substrate; and curing the two-component coating  
system mixture.

8. A polyurea polymer prepared by reacting the coating composition  
according to Claim 2.

25